

## HUMAN RESOURCES WEIGHT CONTROL FAQ's

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### **How do you calculate a female/male Soldier's body fat percentage if her/his measurements are not on the tables in AR 600-9?**

The following formula is the DoD body fat equation mentioned in Department of Defense Instruction (DoDI) 1308.3, "DoD Physical Fitness and Body Fat (BF) Programs Procedures", dated 5 November 2002. Just insert the Soldiers' circumferences and height (in inches).

**NOTE:** You will need to use a scientific calculator which you will find on your computer. (Pull up calculator from programs and then click on VIEW and choose "Scientific".)

#### **WOMEN:**

The equation\* for women is: % body fat =  $[163.205 \times \log_{10} (\text{waist} + \text{hip} - \text{neck})] - [97.684 \times \log_{10} (\text{height})] - 78.387$

**\*Circumference and height measurements must be in inches.** Solve the equation- using actual measurements: SAMPLE Neck = 15.0"; waist = 42"; hip = 44"; height = 64"

$$\% \text{ body fat} = [163.205 \times \log_{10} (42 + 44 - 15)] - [97.684 \times \log_{10} (64)] - 78.387$$

A. Solve  $[163.205 \times (\text{Log}_{10} (71))]$ . Take the  $\text{Log}_{10} (71) = 1.85$  (when using a calculator be careful not to use LN (natural log), rather use the LOG key so you would enter 71 and press LOG).

B. Solve  $[97.684 \times (\text{Log}_{10} (64))]$ . Take the  $\text{Log}_{10} (64) = 1.81$  (when using a calculator be careful not to use LN (natural log), rather use the LOG key so you would enter 64 and press LOG).

C. Solve the equation:

$$\begin{aligned} \% \text{ body fat} &= [163.205 \times 1.85] - [97.684 \times 1.81] - 78.387 \\ &= [301.93] - [176.81] - 78.387 \\ &= 47\% \text{ (actual number is 46.73\% round to the nearest whole \% body fat)} \end{aligned}$$

#### **MEN:**

The equation\* for men is: % body fat =  $[86.010 \times \log_{10} (\text{abdomen} - \text{neck})] - [70.041 \times \log_{10} (\text{height})] + 36.76$

**"Circumference and height measurements must be in inches.**

Solve the equation- using actual measurements: SAMPLE

Neck = 16"; waist = 49"; height = 69"

$$\% \text{ body fat} = [86.010 \times \log_{10} (49 - 16)] - [70.041 \times \log_{10} (69)] + 36.76$$

A. Solve  $[86.010 \times (\text{Log}_{10}(33))]$ . Take the  $\text{Log}_{10}(33) = 1.52$  (when using a calculator be careful not to use LN (natural log), rather use the LOG key so you would enter 33 and press LOG).

B. Solve  $[70.041 \times (\text{Log}_{10}(69))]$ . Take the  $\text{Log}_{10}(69) = 1.84$  (when using a calculator be careful not to use LN (natural log), rather use the LOG key so you would enter 69 and press LOG).

C. Solve the equation:

$$\begin{aligned}\% \text{ body fat} &= [86.010 \times 1.521 - [70.041 \times 1.841] + 36.76 \\ &= [130.74] - [128.88] + 36.76 \\ &= 39\% \text{ (actual number is 38.62\% round to the nearest whole \% body fat)}\end{aligned}$$

### **When is a pregnant Soldier exempt from AR 600-9 and for how long?**

Female Soldiers who become pregnant will be exempt from the standards for the duration of pregnancy plus 6 months following pregnancy termination. This information was last published in DoD Directive 1308.1, 20 Jul 1995, DoD Physical Fitness and Body Fat Program.

### **When will a Soldier be flagged for being overweight?**

IAW AR 600-9 para 3-2b Active, Reserve, and National Guard Soldiers exceeding the body fat standard will be provided weight reduction counseling by health care personnel, entered in a Weight Control Program by their unit commander, and flagged under the provisions of AR 600-8-2. Enrollment in the AWCP starts on the day that the Soldier is informed by the unit Commander that he/she has been entered in a weight control program.

### **Are medical evaluations required before a Soldier is flagged?**

No. However, in accordance with (IAW) AR 600-9 para 3-2d, a medical evaluation will be accomplished by health care personnel when the Soldier has a medical limitation, or is pregnant, or when requested by the unit commander. A medical evaluation is also required for Soldiers being considered for separation as a result of failing to make satisfactory progress in a weight control program, or within six months of ETS. It is recommended that all Soldiers that are enrolled in a weight control program receive a medical evaluation. However, a medical evaluation does not exclude the Soldier from meeting body fat standards per AR 600-9.

### **Can the commander or attending physician approve exemptions to AR 600-9?**

No. All exemptions to AR 600-9 must be forwarded to Deputy Chief of Staff, G-1, **ATTN: DAPE-HRI**, 300 Pentagon, Washington, DC 20310. G-1, Human Resource, is the proponent for The Army Weight Control Program. Commanders are to provide counseling to Soldiers to establish a personal weight goal and implement the weight control program. Physicians and other health care personnel assist commanders and supervisors by providing weight reduction counseling, identification of pathological conditions that require

medical treatment, and evaluating Soldiers with medical limitations. Per The Office of The Surgeon General, DA Form 3349, Physical Profile form will not be used to excuse Soldiers from the provisions of AR 600-9. AR 600-9 contains a standard memorandum for completion by a physician if there is an underlying or associated disease process that is the cause of the overweight condition.

### **PROCESS to Request A Waiver to AR 600-9**

All waiver requests must be endorsed by your commander or senior leader and forwarded through your higher headquarters to Army G-1. Your request must be accompanied by your medical records and documentation from your physician. This information is then forwarded to OTSG who reviews and renders a medical opinion.

Please forward your request, with supporting medical documentation from your primary care provider (to include treatment) via email to Kathleen.wiltsie@hqda.army.mil or fax (703) 695-6988, (call first though as it is a jointly used fax machine); or you can mail the documents to:

Deputy Chief of Staff, G-1  
**ATTN: DAPE-HRI**  
300 Army Pentagon  
Washington, DC 20310

### **If a Soldier is taking a prescribed medication that may cause weight gain, is the Soldier exempt from the standards of AR 600-9.**

No. IAW The Office of The Surgeon General (OTSG), Physical Profiles and AR 600-9, the use of certain medications to treat an underlying medical disorder or the inability to perform aerobic events may contribute to weight gain, but is not generally considered sufficient medical rationale to exempt a Soldier from AR 600-9.

### **Are love handles measured when you obtain abdominal circumference?**

No. The locations to measure body circumferences for males and females are based on standard body sites used by scientist that study how to measure body fat. Army scientists that developed how the Army measures body fat used specific sites that are described in AR 600-9. That is, scientists want to make certain that each site is measured the same way regardless of who is doing the measuring. Deviating from the directions on how to measure each site may lead to incorrect body fat measurements and lead to wrong assessments on whether progress in losing body fat has been made. That said, moving the tape up or down when measuring the abdominal site to ensure that the tape includes the 'love handles' is not a good practice as this clearly deviates from how the site was measured when the research was done to developed the "tape test". AR 600-9 describes the abdominal circumference site as being at the level of the "belly button". Imagine that a Soldier has his abdominal circumference measured as described in AR 600-9 to be placed on the Army Weight Control Program only to have it rechecked a month later by a different training NCO, who measures it differently. The issue then becomes that the Command or Soldier will not know whether he was successful with losing body fat. It is neither fair nor appropriate to change the location of the tape based on a person's body shape. Being

consistent is an important aspect of doing the tape test correctly. Always measure the circumference sites exactly as described in AR 600-9 (for males and females) to ensure a consistent and fair body fat measurement each time he/she is measured, regardless of whether it is the same or different person doing the taping.

**Is the Gulick tape authorized to use to measure body fat?**

No. The tape has a spring loaded end that is used by some to ensure that they exert the same amount of pressure on the tape (and hence the measurement site) when measuring body fat. To explain this a bit -the spring assembly has a ball at the end that is all encased in a clear tube at the end of the tape; there is also a reference line on the tube. The ball is half clear and half red. When the tape is stretched the ball retracts -it is when the red half meets up with the reference line that you are considered to be exerting the correct amount of pressure (if too much pressure is exerted then the bubble falls below the reference line and if not enough the bubble does not meet up with the reference line). The current AR 600-9, Appendix B-Id., of acceptable (tape must be of non-stretchable material that is 1/4 - 3/8" wide). That said, the Army, to my knowledge, will not make them readily available for units to use nor will there be a movement to get everyone to use them. If that were the case ALL documents would refer specifically to the Gulick tape. The reason for NOT using them is that: 1) the spring can get stretched over time thereby making measurements inaccurate with time, 2) the preferred method to ensure that you are applying the tape correctly is to view the site that is being measured -the tape should make contact with the skin, conform to the body surface being measured, and not compress the underlying soft tissue (fat), rather than rely on whether the bubble is correctly at the reference line on the tube (it is not always easy to get the bubble at EXACTLY the right spot on the reference line), 3) measurers can become more dependent on the bubble rather than use their best judgment and 'feel' on whether or not the skin is too compressed or compressed not enough. The bottom line -it is best NOT to use a Gulick tape measure to measure body fat.

**If a Soldier loses the baby at the 6-7 week mark, what is the guidance in regards to her PT test and weigh-in? How long of a recovery/convalescent time does she have before having to pass a PT test and weigh-in?**

Department of Defense Directive (DoDD) 1308.1, dated 20 July 1995, Physical Fitness and Body Fat Program states pregnant service members shall not be held to the standards of fitness and body fat testing until at least 6 months after pregnancy termination. When initially informed of the pregnancy, the Service member shall continue her physical fitness program, but under the supervision of medical authority. It is recommended that the Services offer at each base or installation a pregnancy postpartum physical training program. (U.S. Army Center for Health Promotion and Preventive Medicine has developed a standardized program and this can be accessed through their website: <http://chppm-www.apgea.army.mil/> ) IAW AR 40- 501 Chapters 7-10. Convalescent leave after a termination of pregnancy (for example, miscarriage) will be determined on an individual basis by the attending physician.

**Why is the current tape test method the Army standard for measuring body fat?**

Department of Defense Instruction (DoDI) 1308.3, DoD Physical Fitness and Body Fat Programs Procedures, dated 5 November 2002, provides physical and body fat procedures to make the Army's weight control program more scientifically current and consistent with the other services. Specifically, the DoDI established percent body fat standards using the circumference-based method (body fat calculation equations, measurement sites, and measurement techniques). Body fat equations rely heavily on assessment of abdominal fat, the region of greatest interest to objectives of military fitness and general health standards. These equations were developed through analysis of population samples for relationships between measure of various body sites and the percentage of body fat, as validated against underwater equations. In addition, Department of Defense requires all services to use similar validated circumferential equations for the predication of body fat composition. The purpose of the body fat calculation is to ensure that personnel with extra weight due to muscle (not fat) are not unfairly required to leave the military. Lean body mass is critical to successfully perform militarily unique jobs that require combat readiness.

### **What was the reason for revising the female Soldier screening weight table?**

Army researchers found that female Soldiers were held to a more stringent weight screen than needed to predict those who exceed fat standards. Consequently, the female screening weight table has been increased to reduce the number of women unnecessarily measured for body fat and meets the body mass index (BMI) outlined in Department of Defense (DoDI) 1308.3, DoD Physical Fitness and Body Fat Programs Procedures, dated 5 November 2002. This increases efficiency and fairness.

### **Are deployed Soldiers exempt from meeting weight standards per AR 600-9?**

No. ALL deployed Soldiers must meet requirements of AR 600-9. Soldiers exceeding the body fat standard will be provided weight reduction counseling by health care personnel, entered in a Weight Control Program by their unit commander, and flagged under the provisions of AR 600-8-2. Enrollment in the AWCP starts on the day that the Soldier is informed by the unit Commander that he/she has been entered in a weight control program.

### **HIGHLIGHTS of the 2006 AR 600-9**

- Revised height and weight table increasing maximum allowable weight for females in table 3-1.
- Revised circumference measurement sites for females are the neck, abdomen and hip.
- DODI standards of measurements to the nearest .50 changed from .25 standards.
- New instructions to round UP to the nearest .50 when measuring the neck for both genders.
- New instructions to round DOWN to the nearest .50 when measuring the abdomen for both genders.
- New instructions to round DOWN to the nearest .50 when measuring the hips for females.
- New DA Forms 5500/5501, Body Fat Content worksheets (male/female).

**Background Information about the changes made to AR 600-9**

November 1998 GAO report GAO/NSIAD-99-9 "GENDER ISSUES: Improved Guidance and Oversight are needed to Ensure Validity and Equity of Fitness Standards"

Call 202-512-6000 or email [info@www.gao.gov](mailto:info@www.gao.gov)

Or write: U.S. General Accounting Office  
P.O. Box 37050  
Washington, DC 20013

**Department of Defense Instructions**

DoDI 1308.1 "DoD Physical Fitness and Body Fat Programs," 20 Jul 1995

DoDI 1308.3 "DoD Physical Fitness and Body Fat Programs Procedures," 5 Nov 2002

To locate DoDIs <http://www.dtic.mil/whs/directives/corres/ins1.html>